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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/586,381	06/02/2000	David E. Green	2130	7037
25280	7590	07/12/2004		
MILLIKEN & COMPANY 920 MILLIKEN RD PO BOX 1926 SPARTANBURG, SC 29304			EXAMINER WACHTEL, ALEXIS A	
			ART UNIT	PAPER NUMBER
			1764	

DATE MAILED: 07/12/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/586,381	<b>Applicant(s)</b> GREEN ET AL.	
	<b>Examiner</b> Alexis Wachtel	<b>Art Unit</b> 1764	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 April 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 29-48 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 29-48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Detailed Action***

***Claim Objections***

1. Claims 29 and 39 are objected to for containing unclear language in the Appeal Brief submitted on 4-8-04. The phrase in claim 29 has language errors: "wherein said at least one portion of said treated substrate retains at least about 50% of said adhered to finish after 10 washes". It is clear that Applicant intended to communicate: "wherein said at least one portion of said treated substrate retains at least about 50% of said ~~adhered to~~ finish after 10 washes". Claims 29 and 39 include the following error: "wherein if said metal is zinc then at least one hydrophilic binder compound at least one hydrophobic binder compound are present". It is clear that Applicant intended to communicate: "wherein if said metal is zinc then at least one hydrophilic binder compound and at least one hydrophobic binder compound are present".

***Status of Appeal Brief***

2. In view of the Appeal Brief filed on 4-8-04, PROSECUTION IS HEREBY REOPENED. Claims 29-48 are rejected as set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits

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(37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

4. Claims 29-31,33-41,43-48 are rejected under 35 U.S.C. 102(a) as being anticipated by US 5,981,063 to Yokozeki et al.

With respect to claim 29, Yokozeki et al teaches a treated substrate comprising a finish comprising a) compounds selected from the group consisting of metal particle- containing compounds, metal ion-containing compounds, metal-ion generating compounds, and any combinations thereof (Col 2, lines 49-52); (Col 3, lines 1-13), and b) at least one binder material (Col 3, lines 40-43), wherein said binder material, after processing and application to said substrate, is not readily water soluble, is not susceptible to attack by a standard laundering additive selected from the group consisting of detergents, solvents, bleaches, or mixtures thereof, and is not susceptible to degradation due to exposure to high temperatures associated with standard laundry drying temperatures;

a substrate selected from the group consisting of a yarn, a fabric comprised of individual fibers (Col 3, line 45), and a film;

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wherein said finish is adhered to at least one portion of the surface of said substrate;

wherein said at least one portion of said treated substrate retains at least about 50% of said adhered to finish after 10 washes as performed in accordance with the wash procedure of MTCC Test Method 130-1981;

wherein said treated substrate is electrically non-conductive;  
wherein if said metal is zinc, then at least one hydrophilic binder compound at least one hydrophobic binder compound are present adhering said zinc compound to said substrate, and wherein said finish exhibits antimicrobial properties.

With respect to claim 29, although Yokozeki et al does not explicitly teach that at least one portion of said treated substrate retains at least about 50% of said adhered to finish after 10 washes as performed in accordance with the wash procedure of MTCC Test Method 130-1981, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. a substrate coated with a metal ion generating compound and binder) and in the similar production steps (i.e. a substrate, a metal ion generating compound, and binder) used to produce the treated substrate. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

With respect to claim 30: wherein said substrate is an individual yarn (Col 3, line 45).

With respect to claim 31: wherein said substrate is a textile fabric.

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With respect to claim 33: wherein said finish comprises metal particles (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 34: wherein said finish comprises metal-ion generating compounds (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 35: wherein said finish comprises a metal selected from one of the transition metals (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 36: wherein said transition metal is selected from the group consisting of silver and zinc (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 37: wherein said finish comprises a metal selected from one of the transition metals (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 38: wherein said transition metal is selected from the group consisting of silver and zinc (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 39: A treated substrate comprising a non-electrically conductive treatment comprising a) metal-containing compounds selected from the group consisting of metal particle-containing compounds, metal ion-containing compounds, and any combinations thereof (Col 2, lines 49-52); (Col 3, lines 1-13), and b) at least one binder material (Col 3, lines 40-43), wherein said binder material, after processing and application to said substrate, is not readily water soluble, is not susceptible to attack by a standard laundering additive selected from the group consisting of detergents, solvents, bleaches, or mixtures thereof, and is not susceptible to degradation due to exposure to high temperatures associated with standard laundry drying temperatures;

and a substrate selected from the group consisting of a yarn, a fabric comprised of individual yarns, and a film; wherein said non-electrically conductive treatment is adhered to at least a portion of the surface of said substrate;

and wherein said at least a portion of the surface of said treated substrate exhibits a) a log kill rate for *Staphylococcus aureus* of at least 1.5 and b) a log kill rate for *Klebsiella pneumoniae* of at least 1.5, both as tested in accordance with AATCC Test Method 100-1993 for 24 hour exposure, and c) retention of at least about 50% of said adhered to finish, all after at least 10 washes, said washes performed in accordance with the wash procedure as part of MTCC Test Method 130-1981.

With respect to claim 39, although Yokozeki et al does not explicitly teach that the treated substrate exhibits a) a log kill rate for *Staphylococcus aureus* of at least 1.5 and b) a log kill rate for *Klebsiella pneumoniae* of at least 1.5, both as tested in accordance with AATCC Test Method 100-1993 for 24 hour exposure, and c) retention of at least about 50% of said adhered to finish, all after at least 10 washes, said washes performed in accordance with the wash procedure as part of MTCC Test Method 130-1981, it is reasonable to presume that said limitations are inherent to the invention. Support for said presumption is found in the use of similar materials (i.e. a substrate coated with a metal ion generating compound and binder) and in the similar production steps (i.e. a substrate, a metal ion generating compound, and binder) used to produce the treated substrate. The burden is upon the Applicant to prove otherwise. *In re Fitzgerald*, 205 USPQ 594.

With respect to claim 40: wherein said substrate is an individual yarn (Col 3, line 45).

With respect to claim 41: wherein said substrate is a textile fabric (Col 3, line 45).

With respect to claim 43: wherein said finish comprises metal particles (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 44: wherein said finish comprises metal-ion generating compounds (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 45: wherein said finish comprises a metal selected from one of the transition metals (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 46: wherein said transition metal is selected from the group consisting of silver and zinc (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 47: wherein said finish comprises a metal selected from one of the transition metals (Col 2, lines 49-52); (Col 3, lines 1-13).

With respect to claim 48: wherein said transition metal is selected from the group consisting of silver and zinc (Col 2, lines 49-52); (Col 3, lines 1-13).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



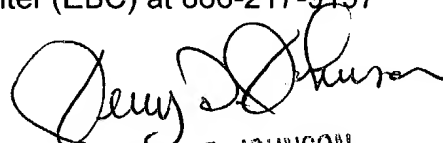
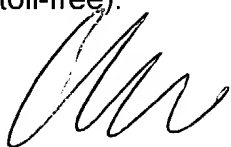
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6. Claims 32 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,981,063 to Yokozeki et al in view of US 5,849,311 to Sawan et al.

With respect to claims 32 and 42, while Yokozeki et al as set forth above teaches the use of fibers as a substrate, no disclosure is provided to teach the use of a film substrate. Sawan et al is directed to biocidal coatings (Abstract) and teaches that a free standing antimicrobial film may be formed (Col 5, lines 36-41). The film may be ground down to make an antimicrobial powder suitable for use in antimicrobial creams (Col 5, lines 57-67); (Col 6, lines 1-7). In view of this teaching it would have been obvious to one of ordinary skill to have employed the binder and antimicrobial metal ion generating material disclosed by Yokozeki et al to make a film substrate that can be ground down to form an antimicrobial powder suitable for use in antimicrobial creams.

### **Conclusion**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alex Wachtel whose telephone number is 571-272-1455. The examiner can normally be reached on 10:30am to 6:30pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached at (571)-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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